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Cover page

Turkeys roasting on a charcoal grill, a tempting steak about to go over the fire, and a big bowl of crisp salad waiting on the table. These are the makings of a hearty picnic. And July is just the month for it. Nationally touted as "Picnic Month," July offers lots of good food in plentiful supply—limes and lemons for thirst-quenching ades, turkeys for roasting, summer salad vegetables, ice cream, and watermelons.

Reprint material

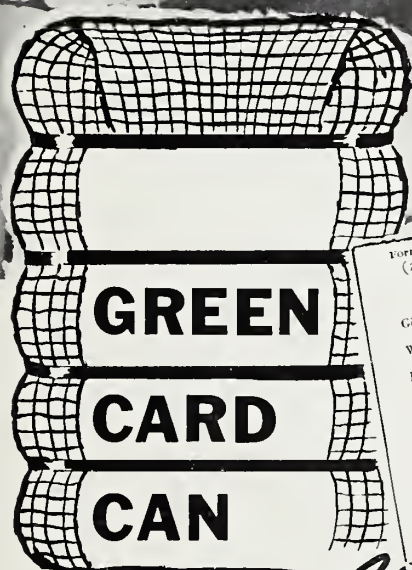
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U. S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

Form C-8-117
(2-3-60)

COTTON CLASSIFICATION MEMORANDUM Form 1

Gin Name & Address _____

Gin Bale No. _____

Whse. Bale No. _____

Date _____

Grade _____

Staple _____

Reduced from _____

Remarks _____

H- 767655

We certify that according to the Official Cotton Standards of the United States the grade and staple length of the sample of cotton herein identified are as shown above. This classification applies only to the sample as and when submitted.

Chairman, Board of Cotton Examiners.

MEAN *Money* IN FARMER'S POCKET

THE LITTLE green card that the U.S. Department of Agriculture issues for each bale of cotton classified under the Smith-Doxey Act can mean money in the pocket of the cotton farmer.

The green card tells him exactly what he has to sell—the grade and staple length of his cotton.

If the farmer uses it, along with market news reports of current prices—as well as statistical reports on supply, demand, and outlook—it's likely he can improve his bargaining position. Market news reports and cotton statistics are pro-

vided by USDA's Agricultural Marketing Service.

Each bale of cotton graded under the Smith-Doxey Act is sampled and classed by the U.S. Department of Agriculture. A sample, consisting of portions from each side of the bale, is examined and the grade and staple length determined. This information then goes on the green card which is returned to the grower.

The market news reports round out the marketing picture. They tell the rest of the story—what the various grades and staple lengths of cotton are selling for.

Information for the market news reports is collected by reporters who visit the cotton exchanges and talk with merchants and producers who have recently bought and sold cotton. It also comes from such organizations as the Spot Price Quotations Committees.

When he knows what he has to sell and what the prices are, the farmer is in a good position to get the best possible price for his cotton.

At the same time, the buyer is sure of what he is getting—that the cotton inside the bale is the same quality stated on the green card.



PACKAGING POTATOES

AT POINT OF PRODUCTION

by Peter G. Chapogas and Philip W. Hale

ALMOST every food store in the United States carries potatoes packaged in bags. But, where is this packaging done—in the retail store, terminal market, or production area? And which is the most efficient?

These are important questions to everyone who produces, distributes, and consumes potatoes. Where the product is packaged has a lot to do with its cost and its quality.

The most logical place to package many products is in the production area. Labor and overhead costs usually are lower in rural areas than in cities.

Also, packaging anywhere beyond the production area often results in a duplication of work. In the case of potatoes, the packer washes, sorts, and packs them (in 50- and 100-pound shipping containers) and the job is done again at the terminal market or retail store (only this time the packaging is in smaller units).

The authors are agricultural economists in AMS' transportation and facilities packaging research field station in Fresno, Calif.

Additional handling adds to the marketing bill and can lower the quality of the potatoes.

Because of the cost and quality advantages of production-area packaging, some potato-growing regions now ship over 40 percent of their crop in retail-size containers.

This, however, has not been true of shippers of California White Rose potatoes. An early variety, particularly susceptible to bruising, White Rose potatoes have continued to move to market in large shipping bags.

Whether or not these potatoes, too, could be prepackaged at point of production—without loss of quality and at a relatively low cost—was studied by Agricultural Marketing Service researchers.

Their tests indicated that good quality White Rose potatoes packed in either 10-pound paper or polyethylene bags could be successfully shipped from California to eastern markets.

Test shipments contained potatoes in paper bags without master

containers and in poly bags packed 5 to a paper baler.

Materials for the paper bags cost 39 cents and direct packing and car-loading labor ran about 11 cents—a total of 50 cents per hundred pounds. The polyethylene bags and paper balers cost 42 cents and had a labor cost of 12 cents for a total of 54 cents per hundredweight.

But, the paper bags weighed more, and they cost more to ship. So, in the long run, there was no cost advantage for one type bag over the other.

During the trip, the potatoes in the paper bags lost about 4 percent of their weight; poly-packed potatoes lost less than 1 percent.

Upon arrival at the terminal market, the paper bags contained more skinned and discolored potatoes than the polyethylene bags. However, there was no difference in the amount of bruising, greening, or decay present in the two types of packages.

Wholesale receivers and retailers alike reacted favorably to both the paper and the polyethylene consumer bags. Those who liked the paper bags better commented that if any decay were present, it developed faster in poly bags and that poly containers gave less protection against greening.

But, to the credit of the polyethylene bags, the trade pointed out that poly bags in unitized packs of five require less time to unload and handle and that consumers prefer the greater visibility of potatoes packed in polyethylene.

So, it seems, California White Rose potatoes packaged at the point of production proved successful.

In fact, one food chain is building its own prepackaging plant in several production areas. And, another firm which prepackages potatoes at the terminal market has supplied polyethylene bags to a California packer to induce him to prepackage White Rose potatoes.

A copy of the full report, MRR-401, may be obtained from the Office of Information, USDA.

LABOR IN MARKETING FARM FOOD PRODUCTS



LABOR COSTS for the marketing of farm-produced foods reached a new high in 1959. At the same time, the increase helped to pay for the marketing of considerably more products and a lot more services.

The labor bill for 1959 stood at \$20.5 billion—\$0.7 billion more than for 1958. This increase was about the same as in 1958, and was less than the rise in either 1957 or 1956.

Yet, there were only a few more marketing workers in 1959 than in 1958—or, than in 1956.

During the past 4 years, the increase in labor costs has gone mainly for higher wages, salaries, and fringe benefits.

Last year the food marketing worker handled more than \$58 billion worth of food (not counting exports and sales to the Armed Forces). This was a half billion more than a year earlier and \$5.5 billion more than in 1956.

They have done this by steadily increasing their output as the volume of marketed foods has risen.

In fact, greater productivity has been the chief reason why per unit costs haven't been higher. It has also offset some of the other factors that would otherwise have increased marketing costs.

For example, down through the years, the work week has been shortened. Some food that for-

merly sold at the farm has been shifted to marketing channels. And, a larger proportion of food is now sold in prepared form or as restaurant meals.

Also consider the growing number of nonproduction workers in food manufacturing companies—people involved in advertising and promotion work, selling, research, and product development. And those engaged in executive, legal, accounting, professional and technical activities.

These, too, are a part of the marketing labor force, though they do not contribute directly to physical output.

Because the number of people behind the scenes has increased by about a third in the past 10 years, it has taken a sizable increase in productivity to keep the labor bill within reason.

Man has been aided, however, by research and machines. At almost every stage in the marketing process—in the office, in the plant, in the warehouse—labor-saving methods and equipment have helped the worker improve his output per man-hour.

That's why the increase in the number of marketing workers since 1929 has been only two-thirds as great as the increase in the volume of farm foods marketed.

There has, however, been a shift in the work areas. The proportion working in eating places has increased, while those in other lines

of food marketing have declined.

In 1959, about 35 percent of the food marketing workers were in retail stores, 25 percent in eating establishments, 25 percent in food-manufacturing plants, and 15 percent in local assembly, wholesaling, and transportation enterprises.

Only two-thirds of those in food manufacturing companies were production workers. Since 1947, the number of production workers has been decreasing; the number of nonproduction workers increasing.

A similar shift has occurred in the relationship between food-marketing laborers and nonagricultural workers. Up to 1947, these two groups had increased at about the same rate. Lately, though, food-marketing workers have grown at a slower rate. In 1959, they represented only 8.7 percent of all non-agricultural workers (compared to 9.2 percent in 1947).

Those in food marketing have seen their wages and salaries increase steadily. Average hourly earnings were 70 percent higher in 1959 than in 1947-49. Fringe benefits for one group of large food marketing corporations amounted to 20 percent of the payrolls.

Even so, workers in the food manufacturing industries have not earned as much as those in other manufacturing enterprises. While the food laborer averaged \$2.10 an hour in 1959, all manufacturing workers received an average of \$2.22 an hour.

This story is based on an article appearing in the April 1960 issue of "The Marketing and Transportation Situation," published quarterly by the Agricultural Marketing Service, U.S. Department of Agriculture. Authors of the original article were Forrest E. Scott, Imogene Bright, and Kathryn Parr of the Marketing Economic Research Division, AMS.



A quick look at lamb grading under revised USDA standards shows substantial increase in the top two grades. During March and April, 97 percent of all lamb and mutton graded Prime and Choice.

WHAT has happened to lamb grading under the revised USDA grade standards?

The revision, effective March 1, reduced the minimum requirements for the U. S. Prime and Choice grades. Lambs in these grades, particularly the more mature ones, now need less "finish" or fat than previously to qualify for the top two USDA grades.

During their first two months of operation, the new standards apparently fulfilled the objectives for which they were designed. During March and April, 97 percent of the lamb and mutton federally graded was Prime and Choice, compared with 88 percent during the same two months of 1959. This percentage increase was due to a 19 percent rise in the proportion grading Prime.

Federal grading of lamb carcasses is a voluntary service and only a part of the lamb produced is federally graded. However, the volume graded during March and April increased at the same time that commercial production was slightly lower than last year. This year USDA graded almost 40 percent of the total commercial production, compared with about 37 percent in March-April 1959.

Whether or not the grading changes indicated in the first two months will hold true during future months remains to be seen. Production of lamb is a year-round business in the United States, but there are marked differences in the type of lambs marketed during the different seasons.

Lambs marketed in March and April are mostly mature fed lambs—the last part of the previous year's crop. Later in the spring, as well as in the summer and fall, young, "milk fat" lambs come to market, while fed lambs come to market mostly in the late fall and winter. How these lambs will grade depends upon production and marketing practices of farmers and the meat industry.

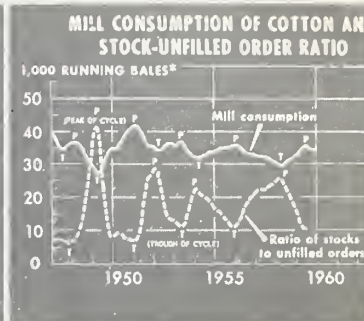
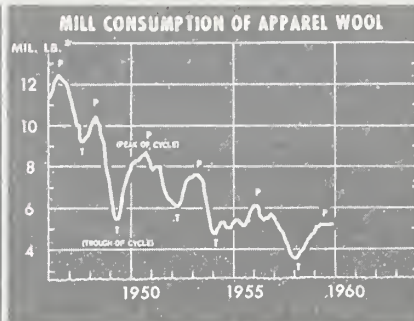
If production and marketing practices continue as in the past, the revised quality requirements of the new standards will permit a higher percentage of younger lambs, as well as mature fed lambs, to qualify for the Prime grade.

The substantial increase in March and April in the percentage of lambs grading Prime meant a decrease in percentages for other grades. Most of the decrease was in the Good grade. Under the first two months of the revised grades there was also a small drop in the volume of lamb grading Choice, although this may not be the case in all months. Choice grade is still the largest volume grade.

Lamb grading is provided on a fee basis by the Department. The Federal Meat Grading Service is administered by the Livestock Division of USDA's Agricultural Marketing Service.

	MARCH-APRIL 1960		MARCH-APRIL 1959	
	MILLION POUNDS	PER CENT OF TOTAL GRADED	MILLION POUNDS	PER CENT OF TOTAL GRADED
U.S. PRIME	9.8	20.5	0.7	1.6
U.S. CHOICE	36.4	76.6	39.7	86.1
ALL OTHER GRADES	1.3	2.9	5.7	12.3
	47.5	100	46.1	(MOSTLY U.S. GOOD) 100

CYCLES IN THE TEXTILE INDUSTRY



by Frank Lowenstein

ECONOMIC cycles have fascinated economists and others analyzing the textile industry for many years. Some people have held that the textile industry moves in regular 2-year cycles—that, starting from a low point, textile mill activity increases for 1 year to a peak, then declines for 1 year to the next trough.

Proof that textile activity actually goes through regular cycles—if it does—would be a boon to the industry. Such cycles would be a valuable aid in planning for the future.

Because of its importance, Agricultural Marketing Service recently put the matter of cycles in the textile industry under close statistical scrutiny.

Answers were sought for the questions. Are there really cycles in the textile industry? If so, how long do they run and how great are the swings up and down? Are the cycles sufficiently regular to be useful in predicting future levels of activity?

Pinning down a cycle is no simple matter. One of the chief complications is that textile activity shows several different kinds of movement. For example, activity tends

to increase or decrease according to the season of the year. Also, irregular movements result from special circumstances which may or may not be repeated in the future.

Fluctuations in activity due to seasonal variations or to irregular movements must be taken out before we can determine whether or not the textile industry follows regular cycles.

Figure 1 illustrates the result of this analysis for the cotton textile industry. The line represents the average daily rates of mill consumption of cotton per month after the effects of seasonal variation and irregular movements have been removed.

From 1946 through 1959, mill consumption of cotton went through five cycles. The length of the cycles varied greatly. One lasted 17 months; another, 26 months. The other three ranged from 33 to 41 months. Furthermore, the amount of increase and decrease was irregular from cycle to cycle.

Study of the prewar period gave about the same results. Three of the cycles from 1927 to 1933 were approximately 2 years in length. These were followed by a 45-month cycle, then by one of 32 months.

We can conclude that cotton mill activity tends to swing up and down in cyclical fashion. But there is no evidence that a 2-year cycle, or a

cycle of any other length, is typical of the industry. The cycles are too irregular in the time covered and in the degree of swing to be of much value in forecasting future developments.

Similar conclusions resulted from study of activity in the apparel wool industry. Figure 2 shows that the cycles in mill consumption of apparel wool ranged from 20 to 48 months. As for cotton, the ups and downs show little similarity from cycle to cycle. Figure 2 also shows that while cyclical variation is evident, the trend in mill consumption of apparel wool has been steadily downward throughout the postwar period.

While we cannot rely on cycles as a guide to the future, other statistical tools are being developed that are much more promising.

One of these is the ratio of stocks to unfilled orders of broadwoven goods at cotton mills. When stocks are low in relation to unfilled orders, mill activity is likely to increase a few months later. On the other hand, when stocks are high in relation to orders, a decline in mill consumption is likely. This relationship is illustrated in Figure 3.

Ratios of this kind are not available for most other types of fibers. However, preliminary studies indicate that such ratios may prove equally useful for wool and rayon.

The author is Head of the Cotton and Other Fibers Section, Statistical and Historical Research Branch, Agricultural Economics Division, AMS.

Use of domestic cheese has grown steadily. Consumption averaged 5.2 pounds per person in 1959.

Population growth has increased total demand for dairy products during postwar period, despite steadily decreasing per capita consumption.

TRENDS IN THE CONSUMPTION

Per capita consumption of cottage cheese doubled what it was at end of World War II.



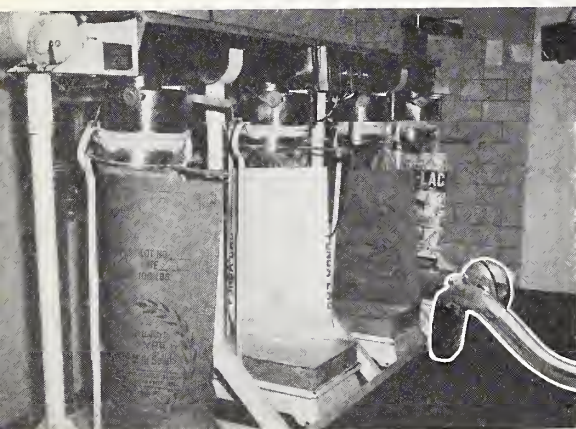
by Herbert C. Kriesel

DAIRY products have had their ups and downs with consumers since the end of World War II. On the top side are ice cream, cheese, and non-fat dry milk. On the down side, butter is the outstanding example. Consumption of fluid milk and cream has eased downward with 1959's per capita figure 5 percent below the 1947-49 average.

Conflicting trends in consumption of dairy products have resulted in a net loss in the per person use of milk—from an average of 742 pounds in 1947-49 to 678 pounds in 1959. But the growth in population has expanded the Nation's requirements. United States consumers accounted for 118 billion pounds in 1959, 11 billion pounds more than in 1947-49. These figures include farm consumption as well as supplies from the Commodity Credit Corporation and from the regular school lunch and special milk programs.

Milkfat in all its forms reached a record low of 26 pounds per person during 1959. This compared with about 30 pounds in the early 1920's and 32 pounds in the early 1940's. The drop in consumption per person of dairy products results chiefly from reduced use of milk fat.

Mr. Kriesel, a staff member of the Agricultural Economics Division of AMS, is editor of USDA's *Dairy Situation*.



Nonfat dry milk and ice cream are two other products that have seen their consumption patterns change for the better. Nonfat dry milk sales now at high of 6.2 pounds per person.



ION OF

Milk-solids-not-fat fared better with consumers. After reaching a peak of 45½ pounds in 1948, they rose to 47½ pounds per person in 1959.

Ice cream also is enjoying high public favor. Consumption rose from 17 pounds per person in 1950 to 18¾ pounds in 1959. Widening the retail distribution of ice cream is done much to stimulate consumption.

Use of *American cheese* has grown steadily for several decades. Whole and part-whole cheeses from abroad also have increased markedly since the war. Part of the increase in cheese consumption is explained by the wider variety of products being processed and sold, particularly spreads.

Sales in packages rather than in bulk, as in earlier days, also has boosted consumption. Many varieties have shown increases in recent years. An exception to the general trend is limburger.

Since the end of the war *cottage cheese* consumption per person has more than doubled—from 2½ pounds to 5½ pounds in 1959. This product fits well into the weight-control diets that are now much more widespread than formerly. Public response to special promotional efforts for cottage cheese has been especially favorable.

Nonfat dry milk consumption

was at its peak in 1959. This reflected large consumer purchases from commercial sources as well as distribution of surplus stocks by the Commodity Credit Corporation.

Butter consumption has declined steadily since it took its first plunge during World War II when it was under rationing. Last year it reached an all-time low of 8 pounds per person. This compares with 10 to 11 pounds just after the end of the war.

Margarine, on the other hand, has steadily gained. Per capita use first exceeded butter in 1957—8.6 pounds for margarine, 8.4 pounds for butter. Margarine rose to 9 pounds per capita in 1958, and 9.2 pounds in 1959.

Federal excise taxes on the sale of margarine were repealed in 1950, and in the years between 1947 and 1951 all the States except Minnesota and Wisconsin terminated restrictions on its manufacture and sale.

Under prevailing Federal laws and regulations, margarine manufacturers have somewhat wider latitude in tailoring their product to wants and desires of consumers. Margarine can be processed to spread easier than butter at usual refrigerated temperature, and it will remain solid at room temperature when butter starts to melt.

Several causes can be cited for

the decline in per capita consumption of dairy products since the end of World War II. One is the decline in the number of farms keeping milk cows. For families that no longer keep milk cows, consumption of both fluid milk and dairy products has dropped off.

Another reason for less per person use of milk and milk products is the growing prejudice against all food products that are believed to produce excess weight and shorten the lifespan. Because of this, the intake of milkfat along with other fats is limited in "reducing" diets. This has been an important factor in the decline in butter consumption. Butter also has suffered from the fact that margarine can be produced from vegetable oils at lower cost than butter and undersell it by a wide margin at retail.

One means being used to combat the apparent prejudice that has been developing against the use of milk is simply to reduce the fat content. Also, new types of cream products with lower fat content are being introduced to the public and are reported to be well received. Finally, the future holds promise of continuing expansion in use of fluid skim milk products.

A more detailed account of trends for dairy products is available in the May 1960 issue of *The National Food Situation*, an AMS publication.

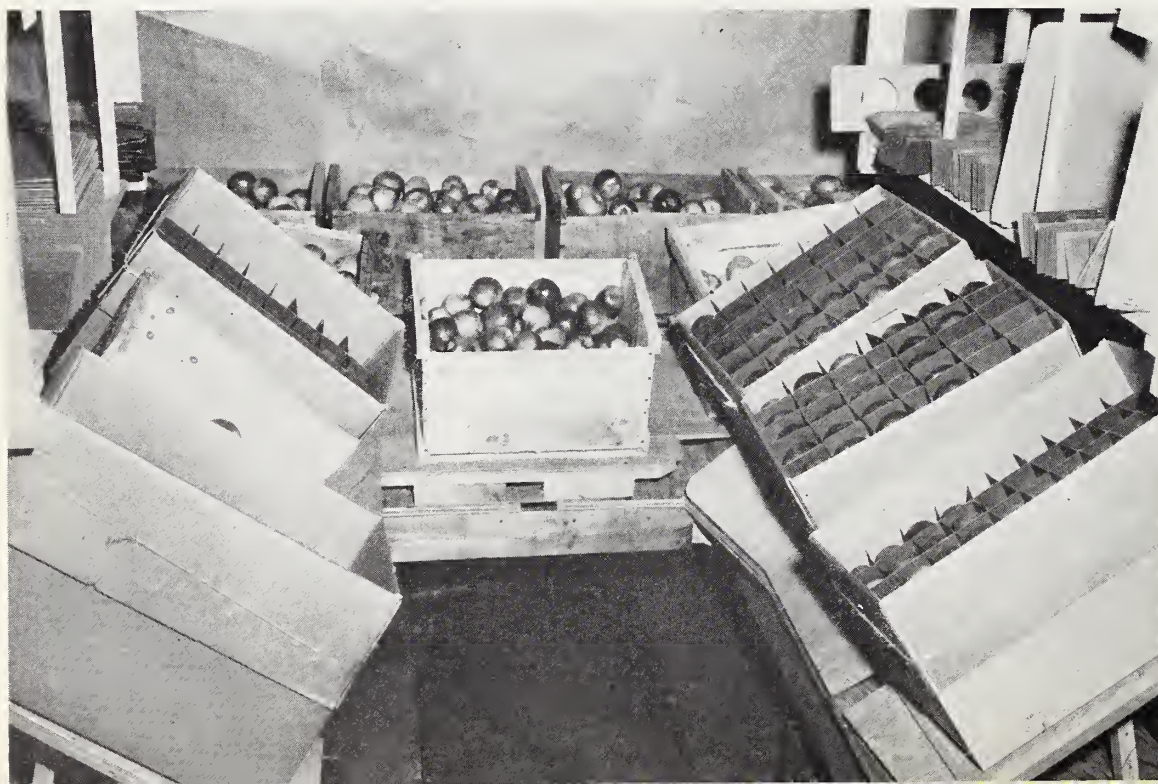
AN IMPROVED STATION FOR PACKING APPLES

Using materials available in apple packinghouse, AMS researchers design packing station that increases productivity by 10 percent

by Stanley W. Burt



BEFORE



AFTER

EVEN in this age of mechanization, McIntosh apples are still being handpacked. And, because of their delicate nature, it looks like they will be for some time to come.

There's nothing wrong with this. But there is something wrong with most of the stations at which they are packed. Currently used manual packing stations are both inconvenient and inefficient—usually the product of a quick installation job.

To provide more efficient working conditions for Northeastern apple packers, researchers in the Agricultural Marketing Service of USDA and the Maine Agricultural Experiment Station have designed an improved packout station. And, they've done it without any dollar outlay to management—simply by using materials in existing packing stations and supply racks.

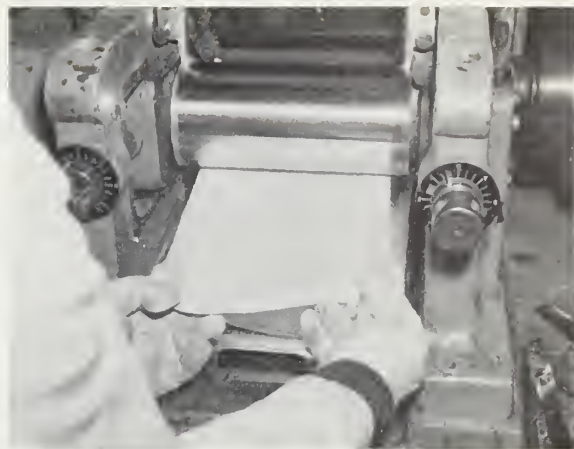
Because of its added convenience and the elimination of waste motion, the new packing station increases packer productivity 10 percent.

Four major changes have been made in the conventional packing station:

1. The working surfaces are tilted to give the packer a clear view into each container.
2. Packing supplies are re-located directly over the cartons in which they are to be used.
3. A chute is used for culls. Formerly, these were hand-placed in a box under the packing table.
4. Apples of the most frequent sizes are packed at the front of the work station near the packer; less common sizes are given space at the rear.



It goes in here—a mixture of distilled animal fats, oils and vinyl chloride. And it comes out here—a thin plastic sheet.



THE FUTURE OF FATS AND OILS

AS PLASTICIZERS

by Richard Hall

OVER 60 million pounds of farm-produced fats and oils are now used in the manufacture of plasticizers. In the next three years this market should be half again as large as it is now, according to estimates of Agricultural Marketing Service researchers.

Animal fats and soybean, coconut, palm, and castor oils are the main fats and oils used in plastics. They provide the fatty-acid base of plasticizers, the agents which make plastics soft and flexible.

Output of plasticizers has increased swiftly in the past few years. Production of fat-based plasticizers rose from less than 40 million pounds in 1954 to over 70 million in 1957. It should be over 100 million by 1963.

Despite this steady increase in output, fats and oils were the raw materials for only about 20 percent of all plasticizers produced. Well over half of the 440 million pounds of plasticizers produced in 1957 came from byproducts of coke and petroleum.

Plasticizers from coke byproducts are versatile and relatively cheap. As such, they are the most

widely used plasticizers for the industry. Fat-based plasticizers, on the other hand, have certain unique characteristics which make them valuable for particular uses, despite their generally higher cost.

For example, in 1954 the Department of Agriculture developed from fats and oils plasticizers that toughen the final plastic and give it a longer life. As a result, production of fat-based plasticizers has grown at a faster rate than the total increase in all plasticizers.

And just two years ago commercial production began on fat-based "internal" plasticizers. This latest development overcomes one of the biggest problems of fat-based plasticizers—the tendency to separate from the plastic.

Internal plasticizers make the plastic permanently flexible. They are permanently fixed into the plastic and can't evaporate, wash out, migrate or otherwise lose their effectiveness.

Developments such as these cause AMS researchers to predict an increased use of agricultural products in plastics for the next three years.

One of the biggest clouds on the horizon is the rapid development of plastics which are flexible without benefit of plasticizers. The polyethylenes, the largest group of these, are not yet as versatile as

the vinyls (the biggest users of plasticizers).

Already, polyethylenes have made inroads in such large-volume outlets as food containers and plastic films. By 1963, polyethylene production is expected to be about 1.5 billion pounds, compared with 1 billion for the vinyls.

With the constant development of new raw materials for the plastic industry, agricultural products will have to compete for industrial outlets on the basis of quality, price, and performance.

If farm-produced fats and oils expect more than a short-term growth, they will have to keep up with their competition. That means research—research to produce high-quality plasticizers at the lowest possible cost.

Some of the characteristics needed are:

- Permanence. (Plasticizers shouldn't change during manufacture of the plastic product or separate from the plastic under stress.)

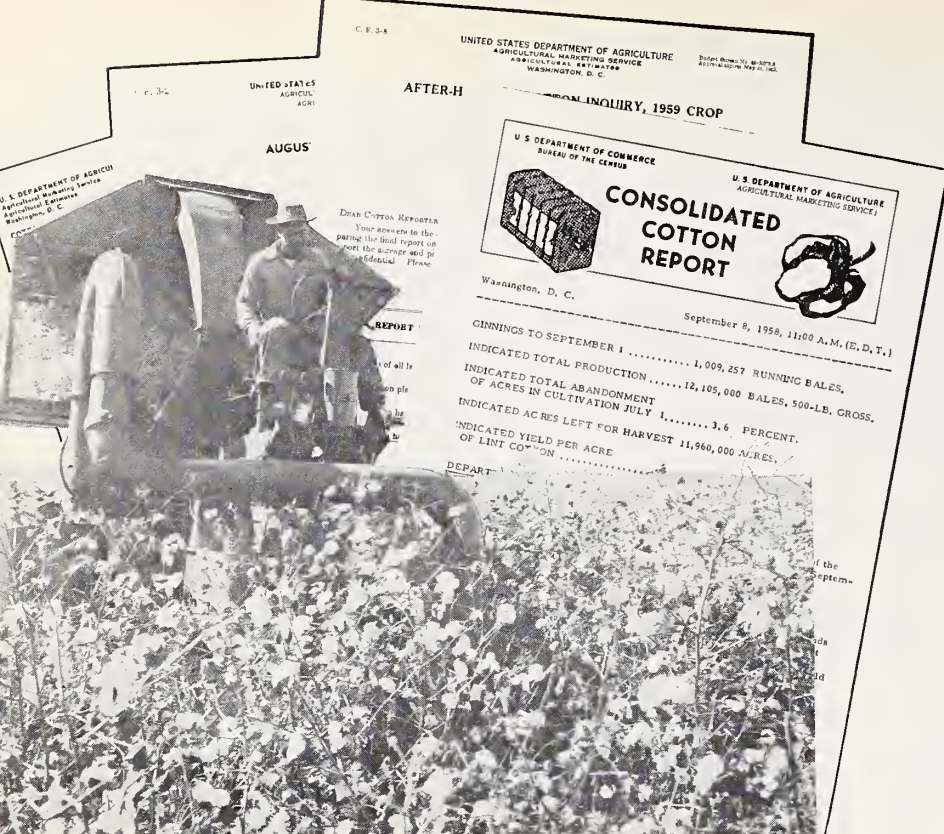
- Resistance to stress, heat, cold, fungus, ultraviolet light, and flames.

- "Ruggedness" in use with a plastic.

- Freedom from odor.

A final demand is perhaps the toughest one of all for the farm-produced fats and oils—a dependable supply at fairly steady prices.

The author is a staff member of the Market Development Research Division of AMS. A full report of the study is available from the Marketing Information Division, AMS, USDA, Washington 25, D. C. Ask for AMS-382.



USDA COTTON REPORTS— GUIDEPOSTS IN MARKETING

by John J. Morgan

ALONG the marketing route of any commodity, guideposts are important.

Such guides are provided cotton farmers and processors in the statistical releases of the Crop Reporting Board of the Agricultural Marketing Service.

The most basic of these is the Cotton Acreage Report which gives the estimated number of acres planted. It comes out each year about July 8.

By the first of July, late cotton plantings are coming up; cotton is squaring in some areas, blooming and setting bolls in others. And a few bales have already been ginned in south Texas. The cotton crop is on its way. And the big question is: How much cotton will be available for market this year?

The author is Head of the Fiber Crops and Naval Stores Section in the Agricultural Estimates Division of the Agricultural Marketing Service.

Before the July acreage report is issued, crop size is mostly a matter of private estimates and opinions. The AMS report offers the first official estimate of cotton plantings. It augments the Bureau of Census' monthly releases on cotton stocks to round out the story of the potential supply for the year.

And it's accurate! The July planted acreage estimates closely match the final report of the actual acreage planted and harvested. For the past 28 years, the July estimate has been within 1 percent of the final report one-third of the time. It was within 2 percent a little more than half the time and varied no more than 3 percent in 3 out of 4 years.

The July report is followed a month later (on August 8 this year) by the Crop Reporting Board's estimate of the number of acres of cotton for harvest and production. By that date, farmers have a pretty

good idea of how many acres of cotton they will harvest. While interest in the acreage continues, by August 1 the major concern turns to yields per acre and prospective production.

To keep farmers and others posted on the progress of the crop all season long, a cotton production report is issued each month through December.

Information for these reports is provided by a corps of volunteer crop reporters whose only pay is knowing they are helping to assemble extremely valuable information—facts that serve as guideposts along the route cotton travels from farmer to consumer.

Double Cleaning of COTTON at Gins

DDOUBLE cleaning of cotton lint at the gins may raise the grade of the cotton, but it also reduces the weight of the bale.

Since cotton is sold by the bale, producers would do well to take a second look at cleaning to improve grade. Sometimes it's not worth it.

A recent study by the Agricultural Marketing Service bears this out. Farmers who double-clean low-grade cotton usually receive more money per bale, but those with high-grade cotton often get less.

Bales are reduced as much as 30 pounds when two lint cleaners are used in tandem. Whether such cleaning is profitable to the grower depends on whether the weight loss is offset by the higher price paid for the higher grade cotton.

Copies of the report, "Effects of Tandem Lint Cleaning on Bale Values, Weight Changes, and Prices Received by Farmers," MRR-397, may be obtained from the Office of Information, U.S. Department of Agriculture, Washington 25, D.C.

TRAY PACK speeds up shelf stocking in grocery stores

by Alan Greene and Paul Shaffer

THE GROCERY "tray pack," an old and popular case-handling technique, is being put to new uses. Originally used to build end displays, it now is appearing in shelf displays—and with considerable savings in labor.

Agricultural Marketing Service researchers, who tested the tray-pack technique in Minnesota and New Jersey supermarkets, found it cut labor requirements for shelf stocking 29 percent.

Payroll savings, however, were not so impressive—because no more than 40 percent of the grocery items sold in a supermarket can be tray-packed effectively.

A supermarket selling 1,800 cases of dry groceries a week and tray packing 40 percent of these can figure a savings of about 10 man-hours.

While extra work is required in the backroom—to cut the top and bottom trays from the cardboard carton and to transfer the merchandise—shelf stocking time is reduced considerably.

From start to finish, it takes an experienced stocker 2.8 minutes to handle a case of canned goods by hand. The same job, handled by the tray-pack method, requires slightly less than 2 minutes.

Because of limited shelf space, small grocery stores do not find the tray pack of great advantage. They are able to use it only for such fast-moving items as soup and canned milk—and in end displays.

Larger stores, which have more space for each item, can tray-pack many more commodities. If 3 or 4 rows of a product are put on display, and if that product moves at the rate of 1½ cases or more a week,

the tray-pack method offers a distinct advantage.

But—a word of warning—be sure empty trays are systematically removed from the display. Left on the shelf, they cover up merchandise in the next tier and may result in sales losses.

Also, soft packaged items—like paper, soap, and cereal—do not lend themselves to tray-packing. The packages are apt to be slashed when the cartons are cut.

Tear-strips, however, are being put on a few of the cartons containing paper packages.

This is one of the ways in which manufacturers can make it easier for retailers to tray-pack their merchandise. There are several others. For instance, retailers find—

- Small 2-layer trays are hard to handle.
- Trays are drab and colorless.
- Sometimes the trays hide important parts of the labels.
- Staples in the cartons often interfere with cutting.

But, at the same time, retailers also find the tray packs a definite plus factor in shelf stocking.

- Employees spend less time in the display aisles.
- Restocking is faster.
- Tray cutting can be scheduled for slack periods.
- Giant-size package displays can be built and maintained all week-end.

- Rotation is built in.
- A store can be "back in business" on Monday morning merely by pulling trays forward.

Everything considered, tray packs offer a real contribution to the efficiency of a retail grocery department. They may not be the final answer to shelf stocking, but they certainly are a step in the right direction.



Tray-packed cans of peaches are price-marked in back room. One carton makes up into two trays.



Tray-packs go directly from back room to shelf.

Soup is especially well suited for tray-packs.



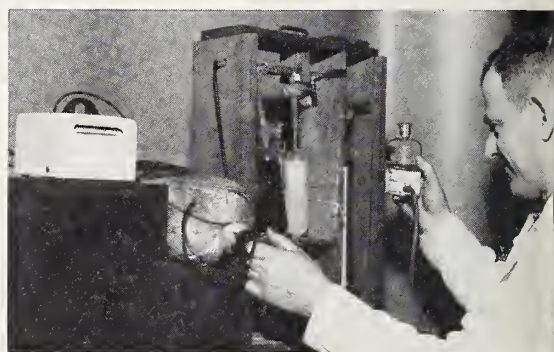
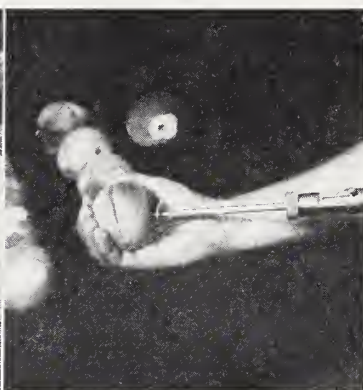
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Committee On Research Evaluation

The Committee on Research Evaluation (CORE) was established within the Department of Agriculture to evaluate research in agricultural production, marketing, and consumption by the Federal and State governments and, to a lesser extent, private industry. The 12 committee members represented the Forest Service, Agricultural Marketing Service, and the Agricultural Research Service. They were assisted in their report by 150 specialists from the Commodity Stabilization Service, Foreign Agricultural Service, Farm Credit Administration, Farmer Cooperative Service, and the Soil Conservation Service.

reports

Marketing Research Benefits Agriculture



Market-testing new products, measuring tenderness, checking quality—all are part of AMS research program to expand markets and move better quality farm foods to market.

CHANCES are that few farmers in this country have heard of the Committee on Research Evaluation. It is unlikely that many food and fiber processors are aware of this particular government group, or that housewives, weighing the merits of a pork roast at the meat counter, think of research benefits as they do their food shopping.

Yet every man, woman, and child in the Nation owes much to agricultural research for his food, clothing, and, to a great extent, his shelter. As the Committee made clear in its recently issued report, the success of agriculture depends on the cooperative research of Fed-

eral and State governments as well as private institutions and industry groups.

The ordinary man thinks little about the mechanism that turns farm supplies into food, cotton and wool into clothes, and makes it possible for fewer than 5 million farms to supply the needs of about 180 million people. But, though he may be largely unaware of this complex of functions called the market, he pays for it and enjoys its benefits daily. Americans spent over \$58 billion on domestic farm-produced food in 1959, of which \$38.4 billion went for marketing.

Take a couple of examples. Re-

cently, researchers analyzed the costs of marketing white bread. The study showed that from 1948 to 1958 rising marketing costs caused an increase of 39 percent in the price of a one-pound loaf, while the cost of wheat and other items used in bread declined almost a half-cent.

On the other hand, a study of butter margins showed a different trend. Economists reported marketing margins for butter had increased only slightly in the past 10 years while margins for all dairy products rose 33 percent.

The results of marketing research, as the CORE report makes clear, are impressive.

Research in the Agricultural Marketing Service has already cut the cost of marketing fresh fruits and vegetables by \$5 million a year through the introduction of better handling and packing methods. Marketing specialists have proposed a new wholesale marketing facility for New York City that will save an estimated \$10 million a year in handling costs for fruits and vegetables alone.

Improved marketing centers in San Antonio, St. Louis, Philadelphia, Atlanta, and in approximately 22 other cities are chalking up savings estimated at a total of \$15 million each year—and more markets are on the way. These and other major projects annually save many times the cost of the entire marketing research program.

Last year, economists studied flaxseed marketing practices and costs at country elevators. They wanted to find out the importance of elevator handling costs, transportation charges, and the total margin of return over costs on a per-bushel basis. One of the things they found was that even though it is much more expensive to clean flaxseed than other grains, it pays off.

New ways to cool fresh produce on the way to market have been a major contribution of research to better marketing methods and increased returns for agriculture. Texas carrot shippers, for example, are saving over \$1 million annually through the use of cheaper packing made possible by hydrocooling and the development of multiwalled bags. And the consumer gets a fresher, crisper product.

Aeration systems for grain

Storage techniques were vastly improved by the research that led to aeration systems for grain. Savings that result from moving air through grain—instead of “turning” the grain—add up to \$1.5 million a year in handling costs. Also, the increased efficiency in use of

storage space is estimated at a value of \$1 million a year. If this system is adopted by even half of the grain elevator operators in this country, total savings can run as high as \$9 million annually.

Besides studying the overall effects of marketing practices, researchers also checked the efficiency of new devices.

Measuring backfat in live animals

Backfat thickness on a hog is one indication of the amount of fat and lean meat present in the carcass. Recently, a new device was developed that measures the depth of backfat in live animals by use of inaudible sound waves. But just how accurate is this measurement in comparison with the judgment of trained graders? Researchers compared machine and man and found that a grader should make fewer errors if he uses this ultrasonic device.

Marketing specialists also put electronics to work for the farmer and the consumer. Researchers developed an electronic detector of blood spots in eggs. The detector is not only more accurate than human candling but could save \$1 million a year if used by the entire industry.

USDA researchers also work to reduce waste and maintain food and fiber quality on the way to market.

One study along this line reported that synergized pyrethrum (when used as a protective spray of dust) will protect stored wheat and shelled corn against insect attack or reinfestation. Another study showed that a chemical compound, S3-C1-1PC, known for its weed killing abilities, is effective in preventing the growth of potato sprouts.

With nearly 500 marketing research projects in progress each year, these are but a few of the results. The list could go on and on. Merely rearranging the loading pattern for long-type watermelons in rail cars saved more than \$500,000 a year for shippers. Re-

search said to discontinue waxing Maine potatoes, and the industry saved \$80,000 a year. Analysis of bulk equipment and new handling methods for milk show possible savings of \$5 to \$12 million annually.

But despite the big job that marketing research has done to date, the problems remaining to be solved are even greater. As the committee pointed out, if agriculture is going to realize its potential contribution to the Nation's rising levels of living, it must provide even newer and improved products and more comprehensive systems of distribution.

The farmer must have a greater knowledge of consumer wants and preferences for agricultural products so he can better fulfill these needs. The food and fiber industries should know more about the various characteristics of their products so these may be more effectively put to use.

To efficiently handle and store our agricultural products, more modern buildings and equipment must be designed. And the search to find better methods to control insects, diseases, weeds, and parasites must continue.

Need for market outlets

Out of agricultural research also must come profitable, new and improved uses and market outlets for farm and forest products as well as new crops and types of livestock. Economists must provide farmers and marketers with information that will allow them to more intelligently choose the most suitable forms of business organization and operation.

These are some of the most important goals for research in agriculture, according to the CORE report. Federal and State government as well as endowed research institutions and private agencies must work together to provide a sound agricultural economy for the Nation.

The Changing Market

Costs for Nonfat Dry Milk

Interested in marketing margins and costs?

Here's how things stacked up for nonfat dry milk purchased for home use in December 1958.

The farmer received 6.9 cents for the skim milk equivalent of a pound of nonfat dry milk.

At the processing plant, the milk was dried and instantized. It then sold for 13.9 cents a pound f.o.b. plant.

Distributors, who packaged the product in consumer units, next sold it to wholesalers for 36.1 cents a pound. And retailers bought it for 38.5 cents and sold it for 47.2 cents.

Much of the money spent for marketing went for promotion and advertising. A good portion also was used to pay for the special packaging required to preserve the quality of the product.

Altogether, 48 percent of the household dollar spent on nonfat dry milk went for instantizing, packaging, advertising, and distribution.

Another 18 percent was spent on retailing. Production and delivery of the raw material accounted for 15 percent of the consumer dollar; processing took 14 percent; and the wholesaling operation used up the remaining 5 percent.

In December 1958, the farm-to-retail spread on a pound of instant nonfat dry milk was about 40 cents.

For a complete account of the marketing story, see "Nonfat Dry

Milk Packaged for Home Use—Marketing Practices and Costs of Manufacture and Distribution." Due off the press some time this summer, this publication may be obtained from the Office of Information, U.S. Department of Agriculture, Washington 25, D.C.

Marketing Officials Convene

Fred Libutske, Chief of Connecticut's Division of Markets, was elected chairman of the Atlantic States Division of the National Association of Marketing Officials at the group's annual spring meeting in Washington, D.C. Boyce Dyer, Director of the Markets Division of Georgia's Department of Agriculture, was named secretary.

The group heard USDA officials review the current agricultural situation; explain what USDA is doing about defense food spending; and report on servicing agricultural exports, the outlook for exports, and government-industry cooperation in developing markets.

A representative of the American Merchant Marine Institute described some of the potentials in exports, and a member of the Military Subsistence Supply Agency related the functions and needs of his agency.

The marketing officials were told also of the problems encountered by a national food service in its procurement for institutional feeding and were given a description of Food and Drug Administration activities.

A major portion of the program was devoted to current events in agricultural marketing circles within the 16 States represented.

Washing Livestock Trucks

For slightly less than \$3,500, livestock markets can set up a two-stall truck wash facility.

Not only would such an installation provide a good service for market patrons, it would minimize the spread of livestock diseases and make for a more efficient marketing operation.

An Agricultural Marketing Service publication, AMS-375, presents a model washing and disinfecting layout for a small stockyard—a facility that could expand as the market grows larger. The author, Tarvin F. Webb, includes two scale drawings and an estimate of construction costs.

Aeration of Rice

Freshly harvested rice of high moisture content can be stored for only a few hours unless it is aerated. Even with aeration to cool the rice it can not be stored indefinitely.

AMS studies at the Rice Pasture Experiment Station in Texas indicate:

Bluebonnet and TP-49, as well as similar varieties of rice, can be held up to 10 days if the moisture content is not over 20 percent.

Gulfrose rice cannot be stored safely for more than a few hours when its moisture content is over 22 percent.